



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

ATTORNEY DOCKET NO. AT9-93-110

GP 2009
10/10/1997
Appeal
Brief
10-3-97

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Serial No. 08/353,008

Filed: 9 DECEMBER 1994

For: METHOD AND SYSTEM FOR
MANIPULATING A PLURALITY
OF GRAPHICAL POINTERS

§ Examiner: TRAN, V.

§ Art Unit: 2609

APPEAL BRIEF

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

This Brief is submitted in triplicate in support of the Appeal in the
above-identified application.

CERTIFICATE OF MAILING
37 CFR 1.8(A)

I hereby certify that this correspondence is being deposited with the United States Postal
Service as First Class Mail in an envelope addressed to Commissioner of Patents and
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24 September 1997
Date

Brian F. Russell
Signature

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REAL PARTY IN INTEREST

International Business Machines Corporation, the assignee of record as set forth in the Assignment recorded at frame 879 of reel 7290, is the real party in interest in the subject Appeal.

RELATED APPEALS AND INTERFERENCES

No appeals or interferences known to Appellant, Appellant's legal representative, or assignee will directly affect or be directly affected by or have a bearing on the Board's decision in the present Appeal.

STATUS OF THE CLAIMS

Claims 1-14 stand finally rejected by the Examiner as noted in the Advisory Action dated May 30, 1997.

STATUS OF AMENDMENTS

No Amendment to the claims was entered subsequent to the Final Rejection.

SUMMARY OF THE INVENTION

As set forth at page 4, line 1 *et seq.* of the present specification, the present invention is directed to an improved user interface for a data processing system that permits a plurality of graphical pointers displayed within a display device to be controlled utilizing a single graphical pointing device. According to the present invention, a graphical pointer among the plurality of displayed graphical pointers is temporarily selected by a user. During the selection, the selected graphical pointer moves within the display device in response to manipulation of the single graphical pointing device. A point within the display device specified by the position of the selected graphical pointer is then selected in response to closure of a switch associated with the selected graphical pointer.

151-17
Claims

Referring now to **Figure 1**, there is depicted an illustrative embodiment of a data processing system within which the present invention can advantageously be employed. As illustrated, data processing system **10** includes a conventional display device **12**, processor system **14**, and keyboard **16**. Data processing system **10** further comprises a mouse **18**, which includes one mouse button **19** associated with each respective one of the graphical pointers displayed within display device **12**.

With reference now to **Figures 2 and 3**, there is illustrated an embodiment of a "Mouse Manager" window that may be utilized to manage multiple graphical pointers in accordance with the present invention. Through appropriate selection of items on menu bar **36**, a user can add, delete, and customize the display of graphical pointers. In addition, by defining graphical pointer Groups, a user can identify sets of graphical pointers that can be simultaneously manipulated in response to movement of the mouse. The movement of each graphical pointer in response to manipulation of the mouse can also be customized by selecting the **Create_Link** function on menu bar **36**. The **Create_Link** function permits a user to define the motion of a graphical pointer relative to the manipulation of the mouse utilizing a one, two, or three-dimensional mathematical relationship. Exemplary implementations of Groups and Links are illustrated in **Figures 4 and 5**.

Referring now to **Figures 6A and 6B**, a logical flowchart is shown that depicts the process by which multiple graphical pointer are managed in an X-Windows windowing environment. As illustrated, the process begins in block **100**, and thereafter proceeds to block **102**, which illustrates the window manager program polling to determine if the user has moved the mouse or other graphical pointing device interfaced to the data processing system. If the mouse has not moved, the process proceeds to block **114**. However, if the mouse has moved, the process proceeds to block **104**, which depicts accessing the data structure of a first graphical pointer. Thereafter, the process proceeds to block **106**, which

illustrates determining if the first graphical pointer is currently active. If not, the process returns to block 104, which depicts accessing the data structure of the next graphical pointer.

If, however, a determination is made at block 106 that the first graphical pointer is active, the process proceeds to block 108, which illustrates computing the coordinates at which to display the first graphical pointer. To compute the display coordinates of the first graphical pointer, the window manager software applies either a default equation, which is an essentially linear relationship between the displacement of the mouse and that of the graphical pointer, or a user-defined Link equation. The process then proceeds to block 110, which illustrates displaying the first graphical pointer at the calculated location. Thereafter, the process proceeds to block 112, which illustrates determining if there are additional graphical pointers. If additional graphical pointers remain to be processed, the process returns from block 112 to block 104. If all active pointers have been repositioned in response to the mouse movement, the process proceeds from block 112 to block 114, which illustrates sending messages generated by the movement of the graphical pointers to interested applications.

The process then proceeds to block 116, which depicts determining if a mouse button associated with an active graphical pointer has been pressed. If so, the process proceeds to block 118, which depicts sending a message to the application for which the selection created an event. The process then proceeds from either block 116 or block 118 to block 120, which illustrates determining if a hot-key utilized to select a new group of active graphical pointers has been pressed. If not, the process proceeds from block 120 to block 136, where the process terminates. If the hot-key has been pressed, the process proceeds to block 122, which illustrates recording which application program is currently active. The process then proceeds to block 124, which depicts activating the Mouse Manager program and displaying the Mouse Manager window illustrated in Figures 2 and 3.

A new group of active graphical pointers may then be selected by the user or by default.

Thereafter, the process proceeds to block 126, which depicts determining if a new group of graphical pointers was selected. If so, the process proceeds to blocks 128 and 130, which illustrate deactivating the current group of graphical pointers (by removing them from the display device) and activating the newly selected group of graphical pointers by building a list of software pointers to the data structures of the newly selected graphical pointers and by displaying the newly selected group of pointers within the display device. The process then proceeds to block 132, which illustrates closing the Mouse Manager window and returning to the active application. Next, the process proceeds to block 134, which depicts sending messages, for example, the locations of the active graphical pointers, to the active application. Finally, the process passes to block 136 and returns.

ISSUES

(1) Is the Examiner's rejection of Claims 1-5 and 10-15 under 35 U.S.C. § 102(b) as unpatentable over Claris Corporation, MacDraw Pro User's Guide, 1991 (hereinafter *Claris*) well-founded?

(2) Is the Examiner's rejection of Claims 6-9 under 35 U.S.C. § 102(b) as unpatentable over Apple Computer, Inc., Macintosh MacPaint (hereinafter *Apple*) well-founded?

GROUPING OF THE CLAIMS

For purposes of this Appeal, Claims 1-5 and 10-14 stand or fall together as a first group, and Claims 6-9 stand or fall together as a second group.

ARGUMENT

Claims 1-5 and 10-14 are rejected by the Examiner under 35 U.S.C. § 102(b) as unpatentable over *Claris*. The Examiner's rejection is not well-founded and should be reversed.

As set forth in the Final Rejection dated May 30, 1997, and labeled Paper No. 8, the Examiner believes that the present invention is anticipated by pages 3-20 and 3-21 of *Claris*, which illustrate the use of an arrow tool (i.e., a single graphical pointer) to reposition one or more graphical objects within a graphical user interface. Thus, the Examiner seeks to equate the "plurality of graphical pointers" recited in Claim 1 with the plurality of graphical objects disclosed by *Claris* in Figure 3-24. However, as described within the present specification at page 6, lines 11-18, a "graphical pointer," in contradistinction to a graphical object, is a moveable feature of a graphical user interface that visually identifies a point within the graphical user interface that will be selected in response to the depression of a button associated with the graphical pointer. As evidenced by the definition of "pointer" given at page 308 of Microsoft Press Computer Dictionary, Second Edition, which is attached hereto as Appendix B, Applicant has utilized the term "graphical pointer" in accordance with its ordinary and natural meaning to a person of ordinary skill in the art. It is therefore clear that the Examiner has failed to accord the term "graphical pointer" its proper meaning and has instead invested that term with a meaning repugnant to its ordinary usage in contravention of MPEP 608.01(o). Applicant therefore respectfully contends that the Examiner's rejection, being founded upon an improper construction of the terminology of the present claims, should be reversed.

In paragraph 1 of the Final Rejection, the Examiner similarly alludes to a possible interpretation of the term "graphical pointer" as including the conventional scroll arrows associated with a window. Applicant believes that this interpretation of the term "graphical pointer" is also flawed for the reasons set forth above.

Assuming for the sake of argument that the term "graphical pointer" can be interpreted in the manner proposed by the Examiner, *Claris* still does not show or suggest the step of "selecting a point within said display device in response to closure of a switch associated with said one graphical pointer . . . said point specified by a position of said one graphical pointer," as recited in Claim 1. According to the Examiner, *Claris*' graphical objects correspond to the plurality of graphical pointers recited in Claim 1. Thus, in order to be consistent, *Claris* must also teach the selection of a point within a display device in response to closure of a switch associated a graphical object, where the location of the selected point is specified by the position of the graphical object. It is clear from even a cursory review of *Claris* that this is not what *Claris* teaches. Instead, *Claris* teaches the conventional selection of a point specified by the location of a single graphical pointer. Applicant therefore urges the Board that *Claris* does not render the present invention unpatentable.

Claris
F5 1-17

The Examiner's rejection should also be reversed because the Examiner has explicitly set forth requirements for patentability beyond those enumerated in Title 35 of the United States Code. The second paragraph of 35 U.S.C. § 112 requires that the "specification conclude with one or more claims particularly pointing out and distinctly claiming the applicant regards as his invention." This requirement is clearly satisfied in the present claims by the use of terms of art, which when read in light of the specification, clearly indicate the invention Applicant is claiming. Even the Examiner concedes in paragraph 1 of the Final Rejection "that the present invention is totally different from the teaching of the reference." However, in that same paragraph of the Final Rejection, the Examiner goes on to state that the rejection of the claims is maintained because the claims do not define and describe the operation of the "graphical pointing device" and "graphical pointer." Applicant respectfully urges the Board to instruct the Examiner that claims need not, and indeed should not, include definitions of terms of art in order to be patentable. Applicant notes in this regard that the Examiner has not made corresponding objections to the terms "display device" and "data

processing system," which although not explicitly defined in the present claims, are clear and unambiguous.

Next, the Examiner has rejected Claims 6-9 under 35 U.S.C. § 102(b) as unpatentable over *Apple*. That rejection is similarly not well-founded and should be reversed.

In paragraph 5 of the Final Rejection, the Examiner asserts that pages 4-5 of *Apple* teach the system recited in Claims 6-9. However, the Examiner fails to specifically indicate what features disclosed by *Apple* are relied upon as teaching the plurality of graphical pointers recited in the present claims; Applicant therefore assumes *arguendo* that the Examiner is relying upon the tool icons comprising *Apple*'s toolbar. Given this assumption, the Examiner's application of *Apple* to the present claims is inconsistent with the clear teaching of that reference. As illustrated and described at page 4 of *Apple*, *Apple*'s drawing window includes a single pointer that "takes different shapes, depending on what tool you're using." In other words, this single pointer can be given different shapes (and corresponding functions) by selecting tool icons displayed on the toolbar. Applicant therefore respectfully contends that the Examiner's application of *Apple* to the present claims is not supported by the reference itself and that the Examiner's rejection should accordingly be reversed.

Recognizing that the rejection of the present claims under 35 U.S.C. § 102 contains an inherent rejection under 35 U.S.C. § 103, Applicant also respectfully contends that *Claris* and *Apple*, whether taken alone or in combination, do not show or suggest the present invention. As described hereinabove, the present invention is directed to an enhancement for a graphical user interface that permits multiple graphical pointers displayed within a single display device to be controlled utilizing a single graphical pointing device. In contrast to the present invention, *Claris* and *Apple* merely disclose that which was known in the prior art, namely, a single graphical pointer controlled by a single graphical pointing device.

The cited reference do not evince a recognition of the need for multiple graphical pointers, for example, for use with large graphics displays, and further do not contain any showing or suggestion of the inclusion of a plurality of graphical pointers within a graphical user interface. Thus, absent impermissible hindsight reasoning guided by the disclosure contained in the present specification, *Claris* and/or *Apple* do not render the present invention obvious.

Please charge Deposit Account No. 09-0447 in the amount of \$300.00 for submission of a Brief in Support of Appeal. No additional fee is believed to be required; however, in the event an additional fee is required please charge that fee to Deposit Account No. 09-0447. No extension of time is believed to be required; however, in the event an extension of time is required, please consider that extension requested and please charge any associated fee therefore to the above-identified Deposit Account No. 09-0447.

Respectfully submitted,

Brian F. Russell
Brian F. Russell
Registration No. 40,796
FELSMAN, BRADLEY, GUNTER & DILLON, LLP
Suite 350 Arboretum Point
9505 Arboretum Boulevard
Austin, Texas 78759
(512) 343-6116

APPENDIX A

1 1. An improved method of selecting points within a display device of a data
2 processing system, said data processing system including a single graphical
3 pointing device, comprising:

4 displaying a plurality of graphical pointers within said display device;

5 temporarily selecting one graphical pointer among said plurality of
6 graphical pointers;

7 manipulating said one graphical pointer in response to operation of
8 said single graphical pointing device during said selection of said one graphical
9 pointer; and

10 selecting a point within said display device in response to closure of
11 a switch associated with said one graphical pointer among said plurality of
12 graphical pointers, said point specified by a position of said one graphical pointer.

1 2. The improved method of selecting points within a display device of Claim 1,
2 wherein said step of temporarily selecting one graphical pointer among said plurality
3 of graphical pointers includes selecting a subset of said plurality of graphical
4 pointers, including said one graphical pointer and at least a second graphical
5 pointer.

1 3. The improved method of selecting points within a display device of Claim 2,
2 wherein said step of manipulating said one graphical pointer includes manipulating
3 said subset of said plurality of graphical pointers.

4. The improved method of selecting points within a display device of Claim 3, wherein said step of manipulating said subset of said plurality of graphical pointers includes the step of:

moving said second graphical pointer to a position determined from a position of said first graphical pointer utilizing a selectively defined mathematical function.

5. The improved method of selecting points within a display device of Claim 3, wherein said step of selecting a point within said display device includes selecting a second point in response to closure of a second switch associated with said second graphical pointer among said subset of said plurality of graphical pointers.

6. An improved system for selecting points within a display device of a data processing system, comprising:

a plurality of graphical pointers displayed within said display device;

a single graphical pointing device interfaced to said data processing system, such that a temporarily selected graphical pointer among said plurality of graphical pointers may be manipulated by said graphical pointing device during said selection; and

a switch associated with said selected graphical pointer among said plurality of graphical pointers, wherein closure of said switch selects a point within said display device indicated by said selected graphical pointer.

1 7. The improved system for selecting points within a display device of Claim
2 6, wherein said graphical pointing device is a mouse.

1 8. The improved system for selecting points within a display device of Claim
2 6, wherein said switch is a mouse button.

1 9. The improved system for selecting points within a display device of Claim
2 6, wherein said plurality of graphical pointers are arrows.

1 10. A computer program product for use with a data processing system having
2 a single graphical pointing device and a display device, said computer program
3 product comprising:

4 a computer usable media including instruction code, said instruction
5 code including:

6 instruction code for causing a data processing system to display
7 a plurality of graphical pointers within said display device;

8 instruction code for causing said data processing system to
9 permit temporary selection of one graphical pointer among said plurality of
10 graphical pointers;

11 instruction code for causing said data processing system to
12 manipulate said one graphical pointer in response to operation of said single
13 graphical pointing device during said selection of said one graphical pointer;
14 and

15 instruction code for causing said data processing system to
16 select a point within said display device in response to closure of a switch
17 associated with said one graphical pointer among said plurality of graphical
18 pointers, said point specified by a position of said one graphical pointer.

1 11. The computer program product of Claim 10, wherein said instruction code
2 for causing said data processing system to permit temporary selection of one
3 graphical pointer among said plurality of graphical pointers includes instruction code
4 for causing said data processing system to permit temporary selection of a subset
5 of said plurality of graphical pointers, said subset including said one graphical
6 pointer and at least a second graphical pointer.

1 12. The computer program product of Claim 11, wherein said instruction code
2 for causing said data processing system to manipulate said one graphical pointer
3 includes instruction code for causing said data processing system to manipulate
4 said subset of said plurality of graphical pointers.

1 13. The computer program product of Claim 12, wherein said instruction code
2 for causing said data processing system to manipulate said subset of said plurality
3 of graphical pointers includes instruction code for causing said data processing
4 system to move said second graphical pointer to a position determined from a
5 position of said first graphical pointer utilizing a selectively defined mathematical
6 function.

1 14. The computer program product of Claim 12, wherein said instruction code
2 for causing said data processing system to select a point within said display device
3 includes instruction code for causing said data processing system to select a
4 second point in response to closure of a second switch associated with said
5 second graphical pointer among said subset of said plurality of graphical pointers.

PMS



APPENDIX B



Poisson distribution

fabricate. P-channel MOS is used in such devices as electronic calculators.

PMS See Pantone Matching System.

PNP transistor A type of transistor in which a base of N-type material is sandwiched between an emitter and a collector of P-type material. See the illustration. The base, emitter, and collector are the three terminals of the transistor through which current flows. In a PNP transistor, holes (electron "vacancies") are the majority of the charge carriers, and these holes flow from the emitter to the collector. *Compare* NPN transistor.

point As a noun, referring to printed output, a typographical unit of measure equal to approximately $\frac{1}{72}$ inch, often used to indicate character height and the amount of space (leading) between lines of text. In programming and video graphics, a point can be either a single pixel on the screen (as in the all-points-addressable mode on IBM computers) or a location in a geometric form (as in a point on a line or a point in a circle).

As a verb, to move an arrow or other such indicator to a particular item or position on the screen by using direction keys or by maneuvering a pointing device such as a mouse.

point chart See scatter diagram.

point diagram See scatter diagram.

pointer In graphics-based environments, an on-screen symbol, such as an arrowhead, that is controlled by a mouse or other input device and is used as a means of indicating (and selecting) locations or choices on the screen.

In programming and information processing, a variable that contains the memory location (address) of some data rather than the data itself. This allows the memory for that data to be dynamically allocated (and deallocated). *See also* allocate, deallocate, dereference, handle.

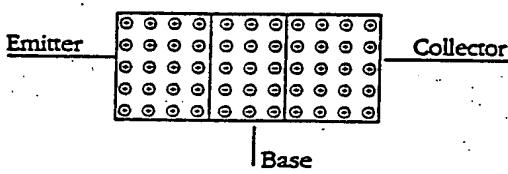
pointing device An input device used to control an on-screen cursor for such actions as "pressing" on-screen buttons in dialog boxes, choosing menu items, and selecting ranges of cells in spreadsheets or groups of words in a document. A pointing device is also often used to create drawings or graphical shapes. The most common pointing device is the mouse, which was popularized by its central role in the design of the Apple Macintosh. Other pointing devices include the graphics tablet, the stylus, the light pen, the joystick, the puck, and the trackball. *See also* graphics tablet, joystick, light pen, mouse, puck, stylus, trackball.

point of sale See POS.

point-to-point configuration A communications link in which two stations are directly joined.

Poisson distribution A mathematical curve used in statistics, named after the French mathematician S. D. Poisson, used to approximate the distribution and probability of various kinds of events. In certain cases the curve approximates the normal and binomial distributions, and the Poisson distribution is often used instead of these distributions for ease of calculation. Poisson distributions are used in communications and other areas

Internal diagram



PNP transistor.

Schematic diagram

